

Application No. 10/729,000
Amendment "E" dated January 23, 2006
Reply to Office Action mailed December 7, 2005

REMARKS

Claims 1-13 and 16-29 remain pending in the application, wherein claims 1, 2, 7-10, 17, 20, 24 and 27-29 have been amended. No claims were added or cancelled by this amendment. Reconsideration and allowance of the claims are now respectfully requested in view of the foregoing amendments and the comments set forth hereafter.

I. **FUNCTIONAL LIMITATIONS MUST BE CONSIDERED IF THEY FURTHER LIMIT THE STRUCTURE AND/OR FUNCTION OF THE CLAIMED DEVICE**

The Office Action states that many of the claim limitations are drafted in functional language and suggests that further structural limitations would better distinguish over the art of record. Accordingly, Applicant has amended the claims in an effort to provide additional structural detail or relationships where warranted in order to better distinguish over the art of record. Applicant wishes to point out that all previous grounds for rejecting the claims were overcome by the previous amendment, necessitating the new grounds for rejection set forth in the current Office Action. Applicant therefore adequately responded to every concern raised in the previous Office Action, thus indicating good faith on his part.

With respect to the statement in the Office Action regarding functional language, Applicant points out that some language that may be characterized as "functional" can and often does provide additional structural detail (e.g., by defining specific spatial or functional relationships between structural elements). It is often a spatial or functional relationship between elements, not the structures themselves considered in a vacuum, that defines an inventive feature (e.g., a solution to a problem not recognized in the art). Such is also the case with restraint devices, as evidenced by the number of patents issued for different restraint devices cited by the Examiner in this case. If every restraint device containing a handle were anticipated by or obvious over every other, the PTO could only have issued one single restraint device patent. The fact that the PTO has issued many such patents is indicative that even slight modifications in structure, relative structural positioning, or functionality can yield a restraint device that provides new solutions to problems, as well as new functionality, not recognized in the prior art.

Moreover, the claims as a whole must be considered when determining their patentability, including spatial or functional relationships between two or more structural

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elements that yield new and useful results not recognized in the prior art. The PTO must consider functional language to the extent it further limits the scope of the claims:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient or step....

It was held that the limitation used to define a radical on a chemical compound as "incapable of forming a dye with said oxidizing developing agent" although functional, was perfectly acceptable because it set definite boundaries on the patent protection sought. *In re Barr*, 444 F.2d 588, 170 USPQ 22 (CCPA 1971).

In a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as "members adapted to be positioned" and "portions . . . being resiliently dilatable whereby said housing may be slidably positioned" serve to precisely define present structural attributes of interrelated component parts of the claimed assembly. *In re Venezia*, 530 F.2d. 956, 189 USPQ 149 (CCPA 1976).

MPEP § 2173.05(g) (emphasis added).. Thus, functional language that defines how recited elements are arranged or operate is appropriate and further limiting, and it must be considered by the PTO when examining a claim.

The situation in *In re Venezia* is similar to the present case. The claims contained limitations that set definite boundaries as to how the component parts would function during use, even though the claims were directed to a "kit of component parts capable of being assembled" in a specific fashion, not a method of use. In the present case, the handle as claimed within the overall device is positioned relative to the corset, harness or other attachment means so that it will lie adjacent to specific parts of a child's body during use.

II. INVENTIVE ASPECTS DISCLOSED IN THE APPLICATION RELATING TO CHILD SAFETY

There are various inventive aspects disclosed in the application that relate to protecting the safety of a child when using a child restraint device. For example, in the background section, the application discusses problems associated with grasping a child, particularly with one hand,

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at a location that is not at or near a balancing plane of a child's body. Application, ¶¶ [0005]-[0008]; Figure 2. Because young children or infants often have poor balance or are incapable of standing or sitting up by themselves, it is often necessary for a person (e.g., a parent, sibling or other caretaker) to hold them up, such as while bathing the child. *Id.* Unfortunately, there is no appendage of a child's body that can be grasped to hold the child in a balanced fashion unless the child is grasped using both hands. *Id.*; Figure 1. However, when washing the child, it is often necessary to grasp the child with one hand in order to free up the other hand for scrubbing. See Figure 2. The result is an inherently unbalanced and potentially dangerous situation for the child. Application, ¶¶ [0005]-[0008]. The unbalanced grasp of a child is further exacerbated by slippery soapy water, the tendency of a child to jerk away his/her arm, and/or the fact that a child's arm is not rigidly attached to the body but hinged by a plurality of joints. Application, ¶ [0008]. Therefore, there exists the problem of being able to grip and hold a child in a balanced and safe manner.

One solution to this problem is a restraint device that includes a handle positioned relative to the means or structure for attaching the handle to a child so that the handle will be positioned adjacent to a central balancing plane that passes through the child's spine and sternum. Examples of devices that include a handle positioned adjacent to the plane passing through a child's spine and sternum is shown in Figures 3, 4, 9-13, 17A-B and 18A. Providing a device that includes a handle adapted so as to be positioned adjacent to the plane passing through a child's spine and sternum allows a person gripping the handle to hold the child in a desired position in a balanced and safer manner compared to if the handle were positioned elsewhere. Positioning a handle too far away from this balancing plane prevents a person from grasping a child in a balanced manner.

Another solution to this problem is a restraint device that includes a pair of handles that are spaced apart so as to lie on opposite sides of a child's body during use. Application, ¶ [0014]. According to one embodiment, the pair of handles may be adapted to lie adjacent to the central balancing plane passing through a child's spine and sternum. Figure 18A. According to another embodiment or manner of use, the pair of handles may be adapted to lie adjacent to a central balancing plane that is perpendicular to the balancing plane that passes through the spine and sternum, i.e., the plane passing through the child's shoulders. Figure 18B.

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Both planes are "central balancing planes" though the plane that passes through a child's spine and sternum is more central and more balanced because it bisects the two halves of a child's body (*i.e.*, right and left sides). The plane that passes through the shoulders is not as central or balanced as the first plane. Hence, where a restraint device only includes a single handle, or where it is desired to only grip one handle of a two-handled device, it is preferably for the handle(s) to be positioned adjacent to the plane passing through the spine and sternum. Where it is desired to grasp both handles at the same time, the handles may be positioned on opposite sides of either balancing plane while still maintaining a balanced system. Positioning two handles so that they do not lie on opposite sides of a child's body yields a system that is inherently unbalanced and less safe.

In order to provide a device that will not inadvertently fail during use, the handle(s) may advantageously be permanently attached to the structure or means for attaching the handle to the child's body. Handles that are removably attached at both ends by, *e.g.*, snaps are not as safe or secure as handles that are permanently affixed. That is because snaps can become rusted, fatigued, or otherwise unable to reliably remain latched. Snaps that become weakened over time can fail, thus potentially resulting in a serious fall of a child being lifted into or out of a bath tub using a restraint device having defective handles. Examples of devices that include permanently attached handles are depicted in Figures 5-7, 9, 10 and 14-16 (Applicant notes the permanent stitching in the form of an "X" shown in each of these Figures; Applicant personally made prototypes with this type of stitching to permanently and securely attach the handle to the attachment means). In some embodiments, the handles comprise releasable straps that are permanently attached at one end and that can be selectively made into a loop. Figures 7B, 15A, 16A and 16B.

Another problem relates to very young children with weak neck muscles or that are otherwise in need of head restraint. An embodiment of the invention provides a restraint device comprising a hood having a concave region into which at least a portion of a child's head can be received in order to securely restrain the child's head. See Figure 12.

III. ART REJECTIONS

The Office Action rejects claim 29 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,396,013 to Hasslinger. Claim 29 as amended recites a restraint device that includes a flexible corset or harness; at least one fastener; a handle attached to the corset or harness in a

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manner so that the handle is positioned next to the child's body or clothing adjacent to a central balancing plane of the child's body that passes through either (i) the child's spine and sternum or (ii) the child's shoulders; and at least one of a cushioning material or a friction enhancing material. The handles 38 of Hasslinger are not positioned relative to the strap 10 so as to lie adjacent to one of the two planes recited in claim 29. Instead, handles 38 are positioned along the strap 10 in a spaced-apart fashion so as to lie on either side of, but not adjacent to, the person's spine. Hasslinger, Figures 4 and 5. The Hasslinger device therefore fails to anticipate claim 29.

Moreover, the Hasslinger device does not allow for the two handles to be positioned on opposite sides of a balancing plane of a child. Thus, even though the Hasslinger device provides the ability to grip with two hands, the two hands will not be located on opposite sides of a child's body, thus creating an inherently unbalanced system compared to devices of the present invention that include two handles. Gripping only one of the handles of the Hasslinger device is even more unstable since neither handle lies adjacent to a central balancing plane passing through either a child's spine and sternum or shoulders. Applicant further notes that the device depicted in Hasslinger is of a size suitable for use with an adult (Figure 4). Because a young child's or infant's back is substantially smaller than an adult back, the handles 38 will, relatively speaking, be even further removed from a child's central balancing plane than what is shown in Figure 4 of Hasslinger when used with an adult.

In any event, Hasslinger deals with persons in need of ambulatory care, not young children. The Hasslinger device is designed to address a different problem. The problems relating to the inherently unbalanced system involving young children is not addressed by Hasslinger. That is why Hasslinger fails to teach or suggest the specific features and structural and functional relationships recited in claim 29. Claim 29 is neither anticipated by nor obvious over Hasslinger.

The Office Action rejects claims 1-8, 20-24 and 27 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over, U.S. Patent No. 5,514,019 to Smith. Smith discloses releasable handles that can releasably attached to the sides of a life vest worn by a driver of a watercraft in one of various positions. Col. 1, lines 58-59, 62-64; Figures 2, 5 and 6. The handles 8a, 8b are positioned on the sides of the person wearing the life vest to permit a rider to firmly grip the handles 8a, 8b to avoid falling off the water craft.

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Figures 1, 2, 5 and 6. Thus, the handles 8a, 8b are designed and positioned to maximize the safety and balance of the person gripping them, not the person wearing them. It is presumed that the driver of the watercraft is firmly in control of the craft and able to stand or sit without assistance. Hence, the handles are located on the sides under the wearer's armpits, and they are relocatable so as to be repositioned in various locations for the convenience of the person gripping the handles. Smith neither teaches nor suggests handles that are positioned adjacent to a central balancing plane passing through the wearer's spine and sternum.

Moreover, it would be contrary to Smith to position handle 8a next to the spine and handle 8b next to the sternum because such a position would create inherently unbalanced and unsafe gripping locations for the rider. Gripping handles located next to a watercraft driver's spine and sternum would at once leave the rider leaning in an unbalanced fashion to either the right or left side of the driver's body. Even slight bumps or turns will more easily hurl the rider off the watercraft than where the handles 8a and 8b are properly located under the driver's armpits as shown in Figures 1, 2, 5 and 6.

Claim 10 as amended clarifies that the handle is "attached to a location on the corset or harness in a manner so that the handle is positioned next to the child's body or clothing adjacent to the spine, sternum, stomach or chest of the child's body when the restraint device is in use" and "so that at least a portion of the hand gripping the handle is disposed . . . adjacent to a central balancing plane of the child's body passing through the child's spine or sternum during use". As discussed above, placing a handle adjacent to the plane passing through the spine or sternum creates the most balanced system, particularly where only a single handle is provided or gripped. Smith does not anticipate claim 10 because the handles 8a, 8b are not positioned so that either gripping hand is located adjacent to the plane passing through the spine or sternum. Nor does Smith teach or suggest placing handles 8a, 8b so that either gripping hand is located adjacent to the plane passing through the spine or sternum. As discussed above, it would be contrary to Smith to provide handles 8a, 8b in this location because it would provide an inherently unbalanced situation for the rider of the watercraft vis-à-vis the body of the driver and the watercraft, thus increasing the chance the rider will be hurled from the watercraft in the event of a bump or sudden turn. Thus, claim 10 is unobvious over Smith, either alone or in combination with any other art of record.

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Claim 1 alternatively recites a restraint device that includes "at least one handle . . . permanently attached to the attachment means to prevent inadvertent detachment of the at least one handle from the attachment means to protect a child from being accidentally dropped during use of the restraint device". Smith clearly teaches that an important feature of handles 8a, 8b is their ability to be released and repositioned. Col. 1, lines 58-59, 63-64; col. 2, lines 11-14, 50-53, 59-62; col. 3, lines 59-65; Figures 2, 5, 6. Moreover, Smith disparages a prior art device in which the handles are "permanently fixed to the belt", thus expressly teaching away from the desirability of providing a device in which a handle is permanently attached or affixed. Col. 1, lines 51-54. Accordingly, claim 1 is neither anticipated by nor obvious over Smith. It is never obvious to modify a device so as to be "unsatisfactory for its intended purpose". MPEP § 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Hence, claim 1 is unobvious over Smith even if combined with another reference as a matter of law.

Claim 20 alternatively claims a method of holding or restraining a child in a desired position while giving the child a bath in a container or basin of water. The Office Action alleges that Smith anticipates claim 20 because a lake or ocean where a jet ski is operated is a "container". While that may be true, the Office Action misses the fundamental point of the method recited in claim 20, *i.e.*, that of restraining a child to which a handle is releasably attached. The claimed method does not involve attaching a handle to a wearer to help balance the person gripping the handle, which is what is taught in Smith, but just the opposite. In Smith, the driver of a watercraft is presumably able to balance himself/herself. The handles 8a, 8b are only provided to facilitate the balance and safety of the rider. If anything, a rider gripping handles 8a, 8b will probably lessen the safety and balance of the driver by jerking the driver every time there is a bump or sharp turn. Smith neither teaches nor suggests a method of using a handle to hold or restrain a child in a desired position while giving the child a bath in a container or basin of water. Thus, claim 20 is neither anticipated by nor obvious over Smith for this reason alone.

Claim 20 was further amended to clarify that the person grips the handle in the recited method "in order to prevent the child from falling over". No such step is disclosed in Smith, either expressly or inherently, since the person gripping handles 8a, 8b does so to stabilize himself/herself, not to keep the driver from falling over. The watercraft driver is presumed to have sufficient skill, strength or balance to sit or stand on his/her own. Otherwise, that person

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would not be allowed to drive a powered watercraft and carry a passenger who will grip handles 8a, 8b to keep the rider from falling off.

Claim 27 alternatively recites a device that includes "a pair of straps, permanently attached to the corset or harness, that may be selectively connected and unconnected and that form a loop when selectively attached" and "attachment means for selectively connecting and unconnecting the pair of cooperating straps so as to selectively form and unform the loop". A critical feature of straps 8a, 8b of Smith is their ability to be released and repositioned at a different location on the life vest. Col. 1, lines 58-59, 63-64; col. 2, lines 11-14, 50-53, 59-62; col. 3, lines 59-65; Figures 2, 5, 6. Moreover, Smith disparages a prior art device in which the handles are "permanently fixed to the belt", thus expressly teaching away from the desirability of providing a device in which any portion of a handle is permanently attached or affixed. Col. 1, lines 51-54. Accordingly, claim 27 is neither anticipated nor obvious over Smith. It is never obvious to modify a device so as to be "unsatisfactory for its intended purpose". MPEP § 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Hence, claim 27 is unobvious over Smith even if combined with another reference as a matter of law.

The Office Action rejects claims 9 and 28 under 35 U.S.C. § 103(a) as obvious over Smith in view of U.S. Patent No. 3,968,994 to Chika. Claims 9 and 28 have been amended to specifically recite a head restraint device or system that includes a concave region configured to receive at least a portion of a child's head in order for the head restraining device or system to securely restrain the child's head in a desired position relative to the child's body when the restraint device is in use. No such concave structure for receiving a portion of a child's head is taught or suggested in either Smith or Chika. Chika discloses a device that includes a hoop that encircles person's neck and extends forward below the chin. Figure 36. Smith does not disclose any head restraint device or system whatsoever. U.S. Patent No. 5,606,744 to Lindy discloses a flat foam pad to cushion the fall of a child's head. Claims 9 and 28 are therefore unobvious over the combination of Smith and Chika, either alone or if combined with Lindy.

The Office Action rejects claims 10-13, 16 and 18-28 as obvious over U.S. Patent No. 6,122,778 to Cohen in view of Smith. The Office Action acknowledges that Cohen fails to disclose a handle extending laterally away from a flexible corset and configured to be gripped by a person's hand. The advantages of attaching a handle in this fashion were explained in the previous amendment. As also explained in the previous amendment, structures 74, 70, 84 and 86

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are not handles but are designed to hold the vest more rigidly together. Thus, Cohen neither teaches nor suggested a device comprising a handle having the specified structural relationship to a corset or harness. The claims are not *prima facie* obvious over Cohen alone. That is why the Office Action attempts to combine Cohen with Smith.

However, Smith fails to teach or suggest a handle, as in claim 10, positioned "so that at least a portion of the hand gripping the handle is disposed . . . adjacent to a central balancing plane of the child's body passing through the child's spine or sternum during use". As discussed above, the handles 8a, 8b in Smith are positioned in order to maximize the balance and stability of the person gripping the handles (*i.e.*, the rider of a watercraft), not the person wearing the life vest (*i.e.*, the driver). It would be contrary to Smith to reposition the handles 8a, 8b to lie adjacent to the driver's spine and sternum because to do so would create an inherently unbalanced and dangerous situation for the rider. Thus, Smith neither teaches nor suggests placing handles 8a, 8b on a restraint device in the position recited in claim 10. Because of this, the combined teachings of Cohen and Smith likewise fail to teach or suggest handles located in such a position (*i.e.*, the Cohen device lacks any such handles at any location and Smith inherently requires the handles to be located under the driver's armpits to yield a device suitable for its intended purpose).

Claim 20 also recites the use of a handle not taught or suggested in Cohen (*i.e.*, structures 74, 70, 84 and 86 of Cohen are not handles). As discussed above, the handles 8a, 8b of Smith are specifically designed to assist the balance and stability of a rider, not a driver wearing the life vest. Hence, the combined teachings of Cohen and Smith neither teach nor suggest a method in which the handle recited in claim 20 is gripped "in order to prevent the child from falling over". Whereas a child can be given a bath in a lake or other large body of water, Smith discloses handles positioned to only aid the balance of a passenger of a watercraft gripping the handles, not a driver wearing the handles. The driver of Smith is therefore required to have sufficient balance and strength to stabilize the person gripping the handles, not the other way around as in claim 20. Claim 20 is therefore unobvious over the combined teachings of Cohen and Smith.

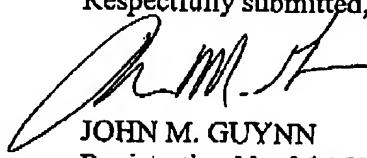
The dependent claims are patentable for the reasons given above with respect to the independent claims. They recites additional limitations that may further distinguish over the art of record.

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In view of the foregoing, Applicant submits that the application as amended is in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 23rd day of January 2006.

Respectfully submitted,



JOHN M. GUYNN
Registration No. 36,153
Applicant
Customer No. 022913

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